

**FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
ILS STANDARD INSTRUMENT APPROACH PROCEDURE
TITLE 14 CFR PART 97.29**

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated.
Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or feet RVR.

<u>AIRPORT ID</u> MHT	<u>PROCEDURE NAME</u> ILS OR LOC RWY 17	<u>ORIGINAL/AMENDMENT</u> 4	<u>CITY</u> MANCHESTER	<u>STATE</u> NH
<u>AIRPORT ELEVATION</u> 266	<u>TDZE</u> 229	<u>SUPERSEDED</u> ILS OR LOC RWY 17	<u>ORIGINAL/AMENDMENT</u> 3A	<u>DATED</u> 02/28/2019
<u>FACILITY</u> I-MNA	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u>	<u>REQUIRED EFFECTIVE DATE</u> ROUTINE	<u>MAG VAR</u> 15W
				<u>EPOCH YEAR</u> 2020
				<u>CANCEL/SUSPEND</u>

TERMINAL ROUTES

FROM	FIX TYPE	TO	FIX TYPE	LEG TYPE	FO/FB	RNP	COURSE	DISTANCE	ALTITUDE
PURBL	IAF	LYLAC		TF	FB	1.00	022.58	6.08	3000
LYLAC		BLSSM		TF	FB	1.00	090.13	4.22	3000
BLSSM		BLUUM		TF	FB	1.00	138.37	3.27	2500
CON VOR/DME	IAF	BLUUM/I-MNA 6.89 DME					177.80	10.61	2500
BLUUM/I-MNA 6.89 DME	IF	ORDIE/I-MNA 3.75 DME					171.52	3.14 (I-MNA)	1600

MISSED APPROACH

MAP:

ILS: DA
LOC: I-MNA 0.31 DME

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 900 THEN CLIMBING LEFT TURN TO 2100 ON HEADING 145 AND ON CON VOR/DME R-171.47 TO MANCH/CON 22.87 DME AND HOLD, CONTINUE CLIMB-IN-HOLD TO 2100.

ALTERNATE MISSED APPROACH INSTRUCTIONS:

PROFILE:

1. PT	SIDE OF COURSE	OUTBOUND	FT WITHIN	MILES OF	(IAF)
2.	PROFILE STARTS AT BLUUM/I-MNA 6.89 DME				
3. FAC:	171.52	FAF: ORDIE/I-MNA 3.75 DME	DIST FAF TO MAP:		
4. MIN ALT:	BLUUM/I-MNA 6.89 DME 2500, ORDIE/I-MNA 3.75 DME 1600, SITLE/I-MNA 1.30 DME 780				
5. DIST TO THLD FROM OM:	MM:	IM:	150 HAT:	GS ANT:	825
6. MIN GS INCPT:	1600	GS ALT AT PFAF:	ORDIE/I-MNA 3.75 DME 1600	OM:	MM:
7. GS ANGLE:	3:10	34:1:	20:1:	TCH:	49.1
8. MSA FROM:	CON VOR/DME 4200				



PBN REQUIREMENTS NOTE:

RNP APCH-GPS. FROM PURPL.

EQUIPMENT REQUIREMENTS NOTES:

DME REQUIRED.

NOTES:

CHART PROFILE NOTE: VGSI AND ILS GLIDEPATH NOT COINCIDENT (VGSI ANGLE {ANGLE}/TCH {FEET}).
CHART SPEED ICON IN PLANVIEW AT PURBL: MAX 210 KIAS.

ADDITIONAL FLIGHT DATA:

CHART MANDATORY 5000 AT PURBL.
CHART IN PROFILE: I-MNA DME ANTENNA.
HOLD S, RT, 351.47 INBOUND.
CHART FAS OBST: 397 TREE (33-028534) 425722N/0712710W.
CHART CIRCLING ICON.

MINIMUMS:

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT

ALTERNATE: NA ☐ ILS: STANDARD; LOC: STANDARD - CAT D 900-2 3/4

CATEGORY:	A			B			C			D			E		
FINAL TYPE	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA
S-ILS 17	429	1800	200	429	1800	200	429	1800	200	429	1800	200			
S-LOC 17	660	2400	431	660	2400	431	660	4000	431	660	4000	431			
CIRCLING	880	1	614	880	1	614	980	2	714	1100	2 3/4	834			

CHANGES - REASONS

1. CHANGED MISSED APPROACH FROM "CLIMB TO 800 THEN CLIMBING LEFT TURN TO 2000 DIRECT MHT VOR/DME AND HOLD" TO "CLIMB TO 900 THEN CLIMBING LEFT TURN TO 2100 ON HEADING 145 AND CON VOR/DME R-171 TO MANCH/CON 22.87 DME AND HOLD, CONTINUE CLIMB-IN-HOLD TO 2100" - MHT VOR/DME REMOVED, VOR MON
2. DELETED ALT MISSED APPROACH - OTHER HOLDING POINTS NOT CONSIDERED DO TO ATC AIRSPACE RESTRICTIONS.
3. MSA CHANGED FROM MHT VOR/DME TO CON VOR/DME - MHT VOR/DME REMOVED, CON VOR/DME NEXT OMNIDIRECTIONAL FACILITY.
4. PBN NOTE CHANGED FROM "PURBL: RNAV 1 - GPS REQUIRED" TO "RNP APCH-GPS. FROM PURPL" - IAW 8260.19I 8-6-8 PBN HYBRID REQUIREMENT NOTES.
5. SITLE STEP DOWN FIX ALTITUDE LOWERED FROM 800 TO 780 - UPDATED TARGETS EVALUATION.
6. DELETED LOC ONLY NOTE AND ASTERISK FROM SITLE IN THE PROFILE VIEW - NOTE NO LONGER REQUIRED BY CRITERIA.



COORDINATED WITH:

A4A

☒

ALPA

☒

AOPA

☒

APA

☒

HAI

☐

NBAA

☒

OTHER:

ZBW, BOS APP CON, MHT ATCT, AMGR

FLIGHT CHECKED BY

BOB S PRESSLER

Digitally signed by

CASIMIR L TABAKA

Mar 14, 2024

OFFICE

FPO

DATE

02/22/2024

DEVELOPED BY

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AJV-A432

DATE

11/01/2023

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Jan 26, 2024

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DATE

TITLE

MANAGER



**FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD**

<u>AIRPORT ID</u>	<u>PROCEDURE NAME</u>	<u>AMDT NO.</u>	<u>CITY</u>	<u>STATE</u>	<u>AIRPORT ELEVATION</u>	<u>FACILITY</u>
MHT	ILS OR LOC RWY 17	4	MANCHESTER	NH	266	I-MNA

PART A: OBSTRUCTION DATA SEGMENTS

INITIAL

FROM PURBL **TO** LYLAC

RNP 1.00 **DISTANCE** 6.08 **PAT** **MAP** **HAT** **HMAS**

<u>OBSTRUCTION</u>	<u>COORDINATES</u>	<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
AAO	425654.00N/0713945.00W	1477	215	8	4B	1000				AT523	3000
TERRAIN	425742.00N/0713903.00W	931 (900)								AS1500	2400

COMPUTATIONS

ALT **KIAS** **KTAS** **HAA** **VKTW** **TR** **BA** **DTA** **COURSE CHANGE** **DVEB** **VEB OCS** **RF CENTER FIX/DISTANCE**

SEGMENT REMARKS:

INITIAL: STEPDOWN

FROM LYLAC **TO** BLSSM

RNP 1.00 **DISTANCE** 4.22 **PAT** **MAP** **HAT** **HMAS**

<u>OBSTRUCTION</u>	<u>COORDINATES</u>	<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
AAO	430524.00N/0714042.00W	1073	215	8	4B	1000				AT927	3000
TERRAIN	430524.00N/0714042.00W	872 (900)								AS1500	2400

COMPUTATIONS

ALT **KIAS** **KTAS** **HAA** **VKTW** **TR** **BA** **DTA** **COURSE CHANGE** **DVEB** **VEB OCS** **RF CENTER FIX/DISTANCE**

SEGMENT REMARKS:

QUALITY
10
CHECKED

INITIAL: STEPDOWN

FROM

BLSSM

TO

BLUUM

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>			<u>HAT</u>	<u>HMAS</u>				
1.00	3.27										
<u>OBSTRUCTION</u>	<u>COORDINATES</u>	<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
AAO	430427.00N/0713042.00W	1090	215	8	4B	1000				AT410	2500
TERRAIN	430427.00N/0713042.00W	889 (900)								AS1500	2400

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

INITIAL

FROM

CON VOR/DME

TO

BLUUM/I-MNA 6.89 DME

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>			<u>HAT</u>	<u>HMAS</u>				
	10.61										
<u>OBSTRUCTION</u>	<u>COORDINATES</u>	<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
AAO	430657.00N/0713706.00W	1119	215	8	4B	1000				AT381	2500
TERRAIN	430657.00N/0713706.00W	918 (900)								AS1500	2400

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



INTERMEDIATE

FROM

BLUUM/I-MNA 6.89 DME

TO

ORDIE/I-MNA 3.75 DME

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>				<u>HAT</u>	<u>HMAS</u>			
	3.14										
<u>OBSTRUCTION</u>	<u>COORDINATES</u>	<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
AAO	430424.00N/0713009.00W	893	215	8	4B	500					1400
TERRAIN	430342.00N/0712854.00W	574 (600)								AS1000	1600

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

FINAL: ILS

FROM

ORDIE/I-MNA 3.75 DME

TO

RW17

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>				<u>HAT</u>	<u>HMAS</u>			
	4.05		DA				200				
<u>OBSTRUCTION</u>	<u>COORDINATES</u>	<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
							ASC				429

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



FINAL: LOC

FROM

ORDIE/I-MNA 3.75 DME

TO

SITLE/I-MNA 1.30 DME

RNP	DISTANCE	PAT	MAP		HAT	HMAS					
	2.45										
OBSTRUCTION	COORDINATES	ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT
BUILDING (33-000055)	425934.00N/0712749.00W	509	100	20	3C	250				DG21	780

COMPUTATIONS

ALT KIAS KTAS HAA VKTW TR BA DTA COURSE CHANGE DVEB VEB OCS RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

FINAL: LOC STEPDOWN

FROM

SITLE/I-MNA 1.30 DME

TO

I-MNA 0.31 DME

RNP	DISTANCE	PAT	MAP		HAT	HMAS					
	1.60		I-MNA 0.31 DME		431						
OBSTRUCTION	COORDINATES	ELEV MSL	HORZ	VERT	AC	ROC	OCS	CG	CGTA	ADJUSTMENTS	MIN ALT
TREE (33-028534)	425722.05N/0712710.41W	397	20	3	1A	250					660

COMPUTATIONS

ALT KIAS KTAS HAA VKTW TR BA DTA COURSE CHANGE DVEB VEB OCS RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



MISSED APPROACH: ILS

FROM

DA

TO

MANCH/CON 22.87 DME

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>				<u>HAT</u>	<u>HMAS</u> 256			
<u>OBSTRUCTION</u>	<u>COORDINATES</u>	<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
							ASC				2100
AAO	425530.00N/0712024.00W	689	215	8	4B	1000					1700
TERRAIN	425403.00N/0712230.00W	521 (500)								AS1500	2000

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:

MISSED APPROACH: LOC

FROM

I-MNA 0.31 DME

TO

MANCH/CON 22.87 DME

<u>RNP</u>	<u>DISTANCE</u>	<u>PAT</u>	<u>MAP</u>				<u>HAT</u>	<u>HMAS</u>			
										410	
<u>OBSTRUCTION</u>	<u>COORDINATES</u>	<u>ELEV MSL</u>	<u>HORZ</u>	<u>VERT</u>	<u>AC</u>	<u>ROC</u>	<u>OCS</u>	<u>CG</u>	<u>CGTA</u>	<u>ADJUSTMENTS</u>	<u>MIN ALT</u>
							ASC				2100
AAO	425530.00N/0712024.00W	689	215	8	4B	1000					1700
TERRAIN	425403.00N/0712230.00W	521 (500)								AS1500	2000

COMPUTATIONS

ALT

KIAS

KTAS

HAA

VKTW

TR

BA

DTA

COURSE CHANGE

DVEB

VEB OCS

RF CENTER FIX/DISTANCE

SEGMENT REMARKS:



AIRPORT ID

MHT

PROCEDURE NAME

ILS OR LOC RWY 17

AMDT NO.

4

CITY

MANCHESTER

STATE

NH

AIRPORT ELEVATION

266

FACILITY

I-MNA

CIRCLING

☐ ALL CATS

☒ CAT A

☒ CAT B

☒ CAT C

☒ CAT D

☐ CAT E

☐ NOT AUTHORIZED

OBSTRUCTION	COORDINATES	RADIUS	HAA	ELEV MSL	HORZ	VERT	AC	ROC	OCS	ADJUSTMENTS	MIN ALT
CATEGORY A											
16. TREES	425552.41N/0712453.64W	1.30	614	579	50	20	2C	300			880
CATEGORY B											
16. TREES	425552.41N/0712453.64W	1.81	614	579	50	20	2C	300			880
CATEGORY C											
17. TOWER (33-000153)	425521.00N/0713028.00W	2.85	714	620	250	50	4D	300		AC50	980
CATEGORY D											
18. AAO	425822.90N/0712137.00W	3.72	834	789	50	20	2C	300			1100

CIRCLING REMARKS:

MSA

CENTER
CON VOR/DME

RADIUS
25

SECTOR	OBSTRUCTION	COORDINATES	BEARING	DISTANCE	ELEV MSL	HORZ	VERT	AC	ROC	OCS	ADJUSTMENTS	MIN ALT
360-360	AAO	432300.00N/0715127.00W	324	15.8	3130	215	8	4B	1000			4200

MSA REMARKS:

NOTES/EXPLANATIONS FROM PROCEDURE SEGMENTS:

80 FOOT TREES USED PER EASTERN FPT.

ILS AND LOC INTERMEDIATE SEGMENTS HAVE THE SAME CONTROLLING OBSTACLES.

MANDATORY ALTITUDE AT PURBL PER ATC REQUEST TO MATCH PUBLISHED ALTITUDE ON ROZZE RNAV STAR.



PART B: SUPPLEMENTAL DATA

COMMUNICATIONS WITH

BOS APP CON, MHT TOWER

WX SERVICE	LOCATION	HRS OPERATION	ALTIMETER SOURCE	DISTANCE	SERVICE-A	ADJUSTMENTS
ASOS	MHT	24	MHT	0	Y	0
BACK-UP WX SERVICE	LOCATION	HRS OPERATION	ALTIMETER SOURCE	DISTANCE	SERVICE-A	ADJUSTMENTS

WX REMARKS:

24-HOUR TOWER HAS REDUNDANT ALTIMETER SOURCES, BACK-UP ALTIMETER SOURCE NOT REQUIRED.

PRIMARY NAVAID	MONITOR POINT	HRS OPERATION	CAT
I-MNA	MHT ATCT	24	1

APPROACH AND RUNWAY LIGHTING SYSTEM	RUNWAY MARKINGS	RUNWAY VISUAL RANGE
RW24 - C/LINE, REIL, HIRL, PAPI-4L	NPI-G	APPROACH, ROLL OUT
RW06 - REIL, HIRL (PCL), C/LINE, PAPI-4L	PIR-G	APPROACH, ROLL OUT
RW17 - MALSR, TDZ, C/LINE, HIRL, PAPI-4R	PIR-G	APPROACH, MIDPOINT, ROLL OUT
RW35 - ALSF-2, C/LINE, TDZ, HIRL, PAPI-4L	PIR-G	APPROACH, MIDPOINT, ROLL OUT

GLIDESLOPE ANGLE	ELEV RWY THRESHOLD	TCH	ELEV GS ANTENNA	DISTANCE FROM RWY	VGSI ANGLE	TCH
3.10	218.2	49.1	219.7	825	3.10	66.6

FINAL APPROACH COURSE AIMING

RUNWAY THRESHOLD	<div>X</div>	FT FROM THRESHOLD	DISPLACED THRESHOLD DISTANCE	336
ON CENTERLINE	<div>X</div>	FT FROM CENTERLINE		

CRITICAL TEMPERATURES

CRITICAL LOW	CRITICAL HIGH	ACT	APT ISA
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CRITICAL TEMPERATURE REMARKS:



"VISUAL PORTION OF FINAL" PENETRATIONS

HELICOPTER 'VISUAL PORTION OF FINAL' PENETRATIONS

and/or

5280-FT "PROCEED VFR" SEGMENT LEVEL SURFACE AREA PENETRATIONS

PENETRATIONS REMARKS:

PART C: GENERAL REMARKS:

VDP NOT ESTABLISHED - VDP IS LESS THAN 0.50 NM AFTER STEPDOWN.
PRECIPITOUS TERRAIN EVALUATION COMPLETED.
ORDER 8260.3, CHAPTER 2, NEW CIRCLING CRITERIA APPLIED.

PART D: AIRSPACE

DOCKET #

ALL DISTANCES TO 1/100NM; ELEVATION TO NEAREST 100 FEET; COORDINATES TO 1/100 SECOND; DEG TO 1/100 DEGREE

DISTANCE FROM	THLD	TO 1000FT POINT	3.44
WIDTH OF	FINAL	SEGMENT AT 1000FT POINT	0.96
TRUE COURSE OF	FINAL	SEGMENT CONTAINING 1000FT POINT	156.52
HIGH TERRAIN IN	FINAL	SEGMENT CONTAINING 1000FT POINT	400
DISTANCE FROM	THLD	TO 1500FT POINT	6.39
WIDTH OF	INTERMEDIATE	SEGMENT AT 1500FT POINT	6.24
TRUE COURSE OF	INTERMEDIATE	SEGMENT CONTAINING 1500FT POINT	156.52
HIGH TERRAIN IN	INTERMEDIATE	SEGMENT CONTAINING 1500FT POINT	600

THRESHOLD COORDINATES (IF STR-IN)	425627.32N/0712620.65W
ARP COORDINATES	425558.10N/0712608.70W
RUNWAY APCH END AND DIST FURTHEST FROM ARP	RUNWAY 35 DISTANCE 0.96 NM
FAF COORDINATES	430010.22N/0712832.59W
FIX NAME COORDINATES	

REMARKS

NO ADDITIONAL AIRSPACE REQUIRED.

THLD DISPLACED 336FT, ACTUAL COORDINATES: 425630.36N/0712622.45W

PART E: PREPARED BY

NAME	OFFICE	DATE	TITLE
JOSEPH L. ZEDER	AJV-A432	11/01/2023	AERONAUTICAL INFORMATION SPECIALIST

